

Python Summary 3: Input & Coping with types

raw_input vs. input:

The input (in Python 3) or raw_input (python 2.X) function is used to get input from a user. Examples in this sheet will use input() as the school computers have Python 3.4 installed.

Using input():

The input() function waits for the user to type a line into the console, and returns what they type as a string value. This value can be assigned to a variable as follows:

```
name = input()
```

If you want to print out an instruction to the user to tell them what to enter, you can put a string value in the brackets, and it will be printed out before the program waits for input:

```
name = input("Please enter your name: ")
print("Hello " + name)
```

Using input() to get a number:

If you expect the user to enter a number, and want to use it as a number in your program, you will need to convert the string that is returned from the input() function into an integer value. You can use the int() function to do this.

Example:

```
str_age = input("Please enter your age: ")
age = int(str_age)
```

```
if age >= 16:
    print("Yes, you may drive")
else:
    print("No, you cannot drive")
```

Adding numbers to a string:

When you want to put a number in a string you need to convert the number to a string value before it is concatenated. Otherwise, Python will give a TypeError complaining that you cannot use the '+' operator with int and str operands. To convert a number (or a bool), we use the str() function, just like we used the int() function before.

Example:

```
age = 16
print("You are " + str(age) + " years old")
```

Test Yourself:

Write some code to accomplish the following tasks in order:

1. Ask the user for their name and store it in a variable
2. Print a greeting including the user's name
3. Ask the user how many pets they have and store the answer in another variable
4. Convert the second response into an int
5. If the user has pets:
 1. Print a message including how many pets they have.